

CLAIMS

1. A system for pumping fluid from a well, comprising a submersible pump introducible into a well for pumping fluid from the well to ground; submersible motor means introducible into the well and connected to said submersible pump for driving said submersible pump, said motor means including at least one upper tandem motor mechanically connectable to another motor and electrically connectable to a power source; and at least one additional upper tandem motor, said additional upper tandem motor being mechanically connected with said first mentioned upper tandem motor so as to drive said submersible pump with a mechanical power derived from said first mentioned upper tandem motor and said additional upper tandem motor; and power source means for supplying said upper tandem motors with electrical power independently from one another.

2. A system as defined in claim 1, wherein said electrical power source means include a single power source electrically connected to both said tandem motors.

3. A system as defined in claim 1, wherein said electrical power source means include at least two power sources which are selected from the group consisting of synchronized power sources and unsynchronized power sources and separately supply electrical power to said upper tandem motors.

4. A system as defined in claim 3, wherein each of said power sources include an engine, a generator which is driven by an engine, and a line supplying electrical current from said generator to a corresponding one of said upper tandem motors.

5. A system as defined in claim 1; and further comprising means for mechanically connecting said upper tandem motors with one another.

6. A system as defined in claim 5, wherein said connecting means include an adaptor provided between said upper tandem motors and having corresponding upper and lower parts each connected to a respective one of said upper tandem motors.

7. A system as defined in claim 6, wherein said parts are formed as flanges provided with a plurality of holes for passing fasteners there through.

8. A system as defined in claim 6; and further comprising a connecting element for connecting shafts of said upper tandem motors with one another, said connecting element including a shaft portion with an upper coupling connected to a shaft of one of said upper tandem motors and a lower coupling connected to a shaft of the other of said upper tandem motors, said connecting element extending through an interior of said adaptor.

9. A system as defined in claim 3; and further comprising means for turning on and off electrical power supply from said power sources to said upper tandem motors, said turning means for being operative for turning on and off electrical power supply from said power sources to said upper tandem motors simultaneously.

10. A system as defined in claim 9, wherein said means for turning on and off include switches means which are operative for turning on and off the electrical current supply from said power sources to said upper tandem motors simultaneously.

11. A method of pumping fluid from a well to a ground, comprising introducing of a submersible pump into a well for pumping fluid from the well to ground; introducing submersible motor means into the well and connecting to said submersible pump for driving said submersible pump, providing in said motor means at least one upper tandem motor mechanically connectable to another motor and electrically connectable to a power source;

providing in said motor means at least one additional upper tandem motor mechanically connectable to another motor and electrically connectable to a power source; mechanically connecting said additional upper tandem motor with said first mentioned upper tandem motor so as to drive said submersible pump with a mechanical power derived from said first mentioned upper tandem motor and said additional upper tandem motor; and supplying said upper tandem motors with electrical power from power source means independently from one another.

12. A method as defined in claim 11; and further comprising using a single power source for both upper tandem motors as the electrical power source means.

13. A method as defined in claim 11; and further comprising using two separate power sources for the upper tandem motors selected from the group consisting of electrically synchronized and electrically unsynchronized power sources as the electrical power source means.

14. A method as defined in claim 13; and further comprising including in each of said power sources include an engine, a generator which is driven by an engine, and a line supplying electrical current from said generator to a corresponding one of said upper tandem motors.

15. A method as defined in claim 11; and further comprising mechanically connecting said upper tandem motors with said additional tandem motor by connecting means while retaining said upper tandem motors not electrically connected with one another.

16. A method as defined in claim 15; and further comprising including in said connecting means an adaptor provided between said upper tandem motors and having corresponding upper and lower parts each connected to a respective one of said upper tandem motors.

17. A method as defined in claim 16; and further comprising forming said parts as flanges provided with a plurality of holes for passing fasteners there through.

18. A method as defined in claim 17; and further comprising for connecting shafts of said upper tandem motors with one another by a connecting element including a shaft portion with an upper coupling connected to a shaft of one of said upper tandem motors and a lower coupling connected to a shaft of the other of said upper tandem motors, so that said connecting element extending through an interior of said adaptor.

19. A method as defined in claim 11; and further comprising turning on and off an electrical power supply from said power sources to said upper tandem motors by turning means operative for turning on and off an electrical power supply from said power sources to said upper tandem motors simultaneously.

20. A method as defined in claim 19; and further comprising using in said turning means switches which are operative for turning on and off the electrical current supply from said power sources to said upper tandem motors simultaneously.

21. A motor unit for driving a submersible pump for pumping fluid from a well, comprising a first upper tandem motor which is mechanically connectable to another motor and electrically connectable to a power source; at least one additional upper tandem motor which is mechanically connectable to another motor and electrically connectable to another power source; connecting means for mechanically connecting said at least two tandem motors with one another without electrically connecting said at least two tandem motors with one another; and means for connecting said at least two tandem motor with power supply means for separately receiving electrical power, so that said at least two upper tandem motors mechanically connected to one another and are supplied with electrical power independently from one another, and one of said upper tandem motors is connectable to a centrifugal pump to drive the latter by mechanical power of said at least two upper tandem motors.